Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WILLIAM HEGLUND

Appeal No. 1999-1941
Application No. 08/629,700

ON BRIEF

Before FLEMING, LALL, and DIXON, Administrative Patent Judges.

LALL, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the Examiner's final rejection[1] of claims 1 to 14, which constitute all the claims in the application.

The disclosed invention is directed to a control for a switched reluctance motor (srm) and includes means for detecting magnitude of current flowing in the machine winding and means responsive to the detecting means for controlling commutation of

[1] An amendment after the final rejection was filed as Paper No. 18, however, the Examiner did not approve its entry into the record, see Paper No. 19.

the switched reluctance machine in four finite states in dependence upon the detected current magnitude flowing in the machine winding during each of the four finite states without determining machine rotor position. Claim 1 is reproduced below for further understanding of the invention.

1. A control for a switched reluctance machine having a machine rotor and a machine winding coupled to a power converter, comprising:

means for detecting a magnitude of current flowing in the machine winding; and

means responsive to the detecting means for controlling commutation of the switched reluctance machine in four finite states in dependence upon the detected current magnitude flowing in the machine winding during each of said four finite states without determining machine rotor position.

The Examiner relies on the following references:

MacMinn et al. (MacMinn)	4,739,240	Apr. 19, 1988
Lyons et al. (Lyons)	5,140,244	Aug. 18, 1992

Claims 1 to 14 stand rejected under 35 U.S.C. § 103 as being unpatentable over Lyons in view of MacMinn.

Rather than repeat the arguments of Appellant and the Examiner, we make reference to the brief and the answer for their respective details thereof.

OPINION

We have considered the rejections advanced by the Examiner and the supporting arguments. We have, likewise, reviewed the Appellant's arguments set forth in the brief.

We reverse.

In our analysis, we are guided by the general proposition that in an appeal involving a rejection under 35 U.S.C. § 103, an examiner is under a burden to make out a prima facie case of obviousness. If that burden is met, the burden of going forward then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). We are further guided by the precedent of our reviewing court that the limitations from the disclosure are not to be imported into the claims. In re Lundberg, 244 F.2d 543, 113 USPQ 530 (CCPA 1957); In re Queener, 796 F.2d 461, 230 USPQ

438 (Fed. Cir. 1986). We also note that the arguments not made separately for any individual claim or claims are considered waived. See 37 CFR § 1.192(a) and (c). In re Baxter Travenol Labs., 952 F.2d 388, 391, 21 USPQ2d 1281, 1285 (Fed. Cir. 1991) ("It is not the function of that court to examine the claims in greater detail than argued by an appellant, looking for nonobviousness distinctions over the prior art."); In re Wiechert, 370 F.2d 927, 936, 152 USPQ 247, 254 (CCPA 1967)("This court has uniformly followed the sound rule that an issue raised below which is not argued in that court, even if it has been properly brought here by reason of appeal is regarded as abandoned and will not be considered. It is our function as a court to decide disputed issues, not to create them.").

ANALYSIS

At the outset, we note that Appellant elects to have all the claims stand or fall together, see brief at page 3.

We consider independent claim 1 first. On page 4 of the Examiner's answer, the Examiner asserts that "Lyons et al '244 states that the system of control is that of well known systems including MacMinn et al. '240 which illustrates a four quadrant

commutation controller for a switched reluctance motor 10. Thus, it would have been obvious ... to utilize Lyons et al within a four quadrant srm as it is stated as known in the art." Appellant argues, brief at page 5, that "an indication of rotor position is obtained in each of the systems disclosed in the Lyons et al. and the MacMinn et al. patents." Furthermore, Appellant argues, id.,
that "neither Lyons et al. nor MacMinn et al. discloses or suggests that it would be desirable or even possible to control a switched reluctance machine without determining machine rotor position."
In response, the Examiner analyzes Lyons and MacMinn on pages 5 and 6 of the Examiner answer and concludes, id. at page 6, that "[a]s with the instant invention, a current detection is provided to commutate the motor." Examiner further asserts, id., that "[t]he instant invention detects the bus voltage 54 which compares this value with reference levels 76, 78, 80, 82 to determine current values I1-I5 which are provided to the Finite State Machine 74 (see figure 4). Phase currents (not labelled in figure 4) are also provided. The finite state machine determines the state or quadrant of operation (see

figure 5) and controls the communtation switching based on the detection."

However, we disagree with the Examiner's position. Like Appellant, we note in MacMinn, item 38 as the resolver or the rotation position sensor which is necessary for the control of the SRM 10. Thus, the estimate or the sensing of the rotational position of the rotor is necessary for the control operation of the srm in MacMinn. Lyons, on the other hand, deals with a lock detector for a switched reluctance motor position estimator. It monitors the rotor angle estimates from an srm estimator to make sure that the estimator is accurately tracking rotor position, see abstract. Lyons shows the state of the prior art in figure 1B where the machine control means is shown at 50. It is the rotor angle 2 going to the control means 50 which Lyons is directed to improve. Lyons does not show that its control means operates without an angle sensor. Figure 4 shows the manner in which Lyons improves on the machine control signal going to control means 50. Note that to obtain the output from item 100 in figure 4 of Lyons, a rotational position sensor signal is necessary at control logic 90. Therefore, it is clear that Lyons also utilizes a rotational position sensor output for

providing an improved signal to the control means 50 of the prior art as shown by Lyons in Figures 1A and 1B. Thus, we agree with Appellant that both MacMinn and Lyons each utilize the output of a rotational position sensor to provide control means for the srm. Therefore, we cannot sustain the obviousness rejection of claim 1 and its independent claims 2 to 5.

With respect to the other two independent claims, 6 and 11, we find that they too each contain the same limitation as claim 1.

Therefore, for the same rationale we cannot sustain the obviousness rejection of claims 6 and 11 and the dependent claims 7 to 10 and 12 to 14, respectively.

In conclusion, the decision of the Examiner rejecting claims 1 to 14 under 35 U.S.C. § 103, over Lyons in view of MacMinn is reversed.

REVERSED

MICHAEL R. FLEMING Administrative Patent Judge	)	
PARSHOTAM S. LALL Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JOSEPH L. DIXON Administrative Patent Judge	)	

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Copies:

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_____ APJ DIXON

DECISION: REVERSED

Panel Change: Yes No

Prepared: May 3, 2002

3 MEM. CONF. Y N

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GAU: 2800

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ACTS 2 ___

BOOK ___

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